

Title (en)  
Electromagnetic unit fuel injector.

Title (de)  
Elektromagnetisch gesteuerte Pumpen-Düsen-Einheit.

Title (fr)  
Injecteur-pompe combiné à commande électromagnétique.

Publication  
**EP 0121300 A2 19841010 (EN)**

Application  
**EP 84300644 A 19840202**

Priority  
US 48179283 A 19830404

Abstract (en)  
An electromagnetic unit fuel injector for use in a diesel engine includes a housing (1 min ) with a pump therein defined by an externally actuated plunger (3 min ) reciprocable in a bushing (2 min ) and defining therewith a pump chamber (8 min ) open at one end for the discharge of fuel to a spring-biased, pressure-actuated fuel injection nozzle (97). The pump chamber (8 min ) is also connected to a spill chamber (46 min ) via a solenoid-actuated, normally open, hollow, ported valve-controlled passage (51 min ) to permit the ingress and egress of fuel. The spill chamber (46 min ) adjacent to a head end (56 min ) of the valve (55 min ) is in flow communication with a supply chamber (38 min ) at the opposite end of the valve (55 min ) and these chambers are connected to a drain passage (50 min ) and supply passage (48 min ), respectively and are interconnected to each other by the valve (55 min ) and by a second passage (34 min ) in parallel with the hollow valve (55 min ). The poppet valve (55 min ) is provided with a pressure assist plunger (58g min ) next adjacent to the head (56 min ) of the valve (55 min ) in the spill chamber (46 min ) so as to be acted upon by spill fuel to effect more rapid opening of the valve (55 min ). During a pump stroke, the solenoid (70 min ) can be energized to move the valve (55 min ) in position to block flow from the pump chamber (8 min ) to the spill chamber (46 min ) so as to allow the pressurization of fuel by the pump to effect discharge of fuel from the injection nozzle (97).

IPC 1-7  
**F02M 57/02**; **F02M 59/36**; **F02M 51/00**

IPC 8 full level  
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CPC (source: EP US)  
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Cited by  
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DE FR GB SE

DOCDB simple family (publication)  
**US 4470545 A 19840911**; CA 1202848 A 19860408; DE 3472703 D1 19880818; EP 0121300 A2 19841010; EP 0121300 A3 19860326; EP 0121300 B1 19880713; JP S59194073 A 19841102

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